

AMENDMENTS TO THE CLAIMS

- 1. (Currently Amended)** A method of computing a contour comprising ~~the steps of:~~
inputting a plurality of points, each input point being indicative of a predetermined landmark point in an image;
deriving a preliminary contour based on the input points and a known average contour shape by applying a parametric model to transform the known average contour shape such that landmark points of the known average contour shape match corresponding input points; and
deforming the preliminary contour to fit features identified in the image to obtain the computed contour.
- 2. (Currently Amended)** A method according to claim 1, wherein ~~the~~ a total number of ~~inputted~~ the input points is fewer than ~~the~~ a number of points needed to define ~~the~~ a shape of the computed contour.
- 3. (Currently Amended)** A method according to claim 1, wherein ~~the~~ a number of degrees of freedom defined by the ~~inputted input~~ points is fewer than ~~the~~ a number of degrees of freedom needed to define ~~the~~ a shape of the computed contour.
- 4. (Currently Amended)** A method according to claim 1, wherein the known average contour shape is obtained using from a database of contours derived from previous images.
- 5. (Cancelled)**
- 6. (Currently Amended)** A method according to claim 51, wherein ~~the deforming step~~ said deforming operation comprises deforming the preliminary contour by applying the ~~same~~ parametric model ~~as in the deriving step.~~
- 7. (Currently Amended)** A method according to claim 51, wherein the parametric model is a deformation model derived from a statistical shape model constructed from a database of contours derived from previous images.

8. (Currently Amended) A method according to claim 1, wherein the contour represents ~~the~~a boundary of an item of interest in the image.

9. (Previously Presented) A method according to claim 1, wherein the image is an anatomical image.

10. (Currently Amended) A method according to claim 9, wherein the image is an image of ~~the~~a heart.

11. (Currently Amended) A method according to claim 10, wherein the image of the heart is a long-axis view of the heart.

12. (Currently Amended) A method according to claim 10, wherein the contour represents ~~the~~an endocardial boundary of ~~the~~a left ventricle of the heart.

13. (Currently Amended) A method according to claim 12, further comprising ~~the step of~~ calculating ~~the~~a volume of the left ventricle.

14. (Currently Amended) A method according to claim 1, wherein the predetermined landmark points in the image comprise:

~~the~~a root of ~~the~~a left mitral valve leaflet;_i

~~the~~an apex of the left ventricle;_i and

~~the~~a root of ~~the~~a right mitral valve leaflet.

15. (Currently Amended) A method according to claim 1, wherein ~~the~~a number of ~~inputted~~the input points is exactly three.

16. (Currently Amended) A method according to claim 1, wherein the image is ~~an image~~ created using a modality selected from the group consisting of ultrasound, nuclear medicine, X-

ray and magnetic resonance imaging.

17. (Currently Amended) A method of computing the motion of a contour, for a temporal sequence of images of a subject, said method comprising ~~the steps of:~~

computing the contour for one image of the sequence ~~according to the method of anyone of images according to the method of~~ of the preceding claims claim 1;

using the computed contour as a new preliminary contour for a further image in the sequence of images;

deforming the new preliminary contour to fit features identified in the further image to obtain ~~the a~~ a computed contour for the further image; and

repeating ~~the using and deforming steps~~ said using and deforming operations to obtain a computed contour for each image in the sequence of images.

18. (Currently Amended) A method according to claim 17, wherein the computed contours represent ~~the an~~ an endocardial boundary of ~~the a~~ a left ventricle of ~~the a~~ a heart, said method further comprising ~~the steps of:~~

calculating left ventricle volumes from the computed contours; and

using the calculated volumes to calculate at least one of the stroke volume and ejection fraction of the heart.

19. (Currently Amended) A computer system comprising:

a data processor;₂

a data storage ~~means,~~ device;

an input device; and

a display, wherein the data processor ~~being is~~ is adapted to process data in accordance with an executable program stored in ~~the said~~ a data storage ~~means,~~ device, ~~wherein and~~ wherein the executable program is adapted to cause a computer to execute at least the method of ~~any one of the preceding claims claim 1~~ on data representing the an image displayed on ~~the said~~ a display and using the plurality of points ~~indicative of predetermined landmark points in the image~~ displayed on said display input with ~~the said~~ a input device.

20. (Currently Amended) A computer program recorded on a computer-readable recording medium comprising program code ~~means for executing on~~causing a computer to execute at least the method of claim 1.

21. (Currently Amended) A ~~computer program product carrying~~computer-readable recording medium having recorded therein the computer program of claim 20.

22. (Currently Amended) A method according to claim 11, wherein the contour represents ~~the~~an endocardial boundary of ~~the~~a left ventricle of the heart.

23. (Currently Amended) A method according to claim 22, further comprising ~~the step of~~ calculating ~~the~~a volume of the left ventricle.